MODIS sensor Working Group (MsWG) Meeting Summary June 27, 2007

Attendance: Gerhard Meister, Eric Vermote, Chris Moeller, Sadashiva Devadiga, Gary Toller, Junqiang Sun, James Kuyper, Vincent Chiang, Elena Novakovskaia, Brian Wenny

Scheduled Agenda

Item 1: Recent L1B LUT delivery

- Terra forward update – 5.0.6.31 (6/15/07) – m1, RVS, TEB
- Aqua forward update – 5.0.7.22 (6/21/07) – m1

Item 2: Instrument status

- Terra and Aqua MODIS are in nominal operations.
- Terra non-recoverable data loss:
  - June 7, (2007/158): 10:38:35 – 16:18:53 – DMU swap (~40% recovered from DB)
  - June 11, (2007/162): 16:26:15 – 17:13:40 – FOT scheduling error
- Aqua non-recoverable data loss:
  - June 2 (2007/153): 02:24:58 – 02:41:24 – Playback errors
- Terra Solid State Recorder DMU Swap activity occurred as scheduled on June 7 (2007/158). Science data recording was disabled from approximately 158/10:30 to 158/16:30 GMT. James Kuyper worked with the DB community and was able to recover about 40% of the L0 data during the DMU swap. He has not received the ephemeris data so has not been able to process any of the data. MODAPS production for day 158 has closed, but can be reprocessed in future when the ephemeris data is available.

Item 3: MCST recent activities

- Continuing discussion of possible Collection 6 issues.
  - Fill Value vs Interpolated L1B: Test data set is available. Chris (atmosphere) and Sadashiva (land) have performed a quick look at the data. Chris tested a few granules and found no impact for the atmosphere products/algorithms as they predominantly use TEB band data and the de-striping algorithm captures the fill value/dead detectors. No impact was found for the 1-km cloud mask, however for the 250m cloud mask a slight impact was observed. His overall conclusion is that this does not 'break' the atmosphere algorithms and has low/minimal impact and is acceptable from the atmosphere group perspective. Sadashiva observed impacts in the 250m land products but was uncertain as to the exact purpose of the test. He thought it unlikely that using fill values would impact the land algorithms but was more concerned with the quality of the resulting products.
    It was suggested that a second data set be produced which contains a number of false dead detectors to simulate a scenario wherein a number of bands have dead detectors. The land, atmosphere, & ocean groups will submit (to James and Brian) a list of bands/detectors to simulate as dead and MCST will create a limited number of test granules.
  - Destriping: James proposed 3 options on how to include a destriped data product in L1B: 1) Provide the destriped data in place of the original data. 2) Provide the destriped data in new SDSs in the existing L1B files. 3) Provide the destriped data in a brand new file type, with it's own ESDT. Chris suggested a fourth option 4) Perform destriping as an optional post-processing step when ordering the data. There was universal agreement that option 1 was bad. Options 2 and 3 have the disadvantage that the destriped data would require additional storage space roughly equal to the amount needed to store the current L1B products. Chris argued that every discipline would want to keep destriping algorithms under their own control, rather than turning the responsibility over to L1B. Thus, option 4 would not impact

production time for the current data products and a destriped L1B product would be available on-demand for those users who don't want to apply their own destriping algorithm.
There was a consensus opinion that option 4 seemed the best way to go and James was going to discuss further with MOPADS the feasibility of implementing an optional on-demand destriped L1B.

  - TEB A0/A2: Internal testing on-going of MCST's proposed approach. Results to be discussed with Jack, then will be presented to MsWG.

- MCST met with the Ocean Color group to discuss some issues they observed in their Terra – SeaWiFS intercomparison. Several unresolved issues remain.
- Junqiang and MCST proposed and are investigating two possible methods for deriving a time-dependent RVS for Bands 13-16 (1. lunar ratio approach 2. wavelength interpolation method). Gerhard and SeaWiFS are independently testing method 2.

Item 4: Around the Table

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Next Meeting: ~July 11, 2007